



JOHN HENRY GADDUM (1900–1965).

SIR JOHN GADDUM

Sc.D.(Cantab.), LL.D.(Edin.), F.R.S.

Sir John Gaddum occupied a unique place in the British Pharmacological Society, and his death on June 30, 1965, after an illness fought with astonishing courage and humour, was a great loss to science and a sad wrench for his many friends.

Born in Cheshire he inherited from his father a love of the country and of natural history. At Cambridge he read first mathematics and then physiology, going on to qualify in medicine at University College Hospital in 1924. He then went to the Wellcome Physiological Research Laboratories where he worked with the late J. W. Trevan. In 1927 he joined Sir Henry Dale at the National Institute for Medical Research. On leaving the National Institute in 1935 he went to the chair of pharmacology first in Cairo, then at University College London, and later at the College of the Pharmaceutical Society, London. Here he began his textbook of pharmacology, first published in 1940, now in its fifth edition. In 1942, after three war years with the Ministry of Supply, he followed A. J. Clark in the University of Edinburgh. Finally, in 1958, he succeeded I. de Burgh Daly as director of the A.R.C. Institute of Animal Physiology at Babraham. He served medical science in many other ways: as secretary of the Physiological Society, 1936-42; as honorary director of the M.R.C. Endocrinology Research Unit, and as a member of the Medical Research Council; and on many advisory and other committees. In 1945 he was elected F.R.S.; he was knighted in 1964, also receiving that year the honorary degree of LL.D. from the University of Edinburgh. In 1965 the British Pharmacological Society and the Biochemical Society elected him to Honorary Membership.

The scientific work by Gaddum and his colleagues can only be briefly outlined here, although it underlies a very wide area of pharmacology and has generated many new ideas: the formulation of the mass-action equations for competitive antagonism and the concept of "dose-ratio" in the presence of an antagonist; the study of quantal assay and the foundation of probit analysis in his 1933 M.R.C. Special Report; the proof of the release of acetylcholine by parasympathetic, by some sympathetic, and by preganglionic nerve endings; the technique of parallel assay, and the elaboration of increasingly sensitive methods of detecting new and active substances; the discovery of substance P in intestine and of histamine in the blood; the study of sympathin and its interactions with ephedrine and amine oxidase; the excretion of kinins in urine; the discovery of the antagonism of 5-hydroxytryptamine by lysergic acid diethylamide, and of 5-hydroxytryptamine in the brain.

Gaddum had a strongly independent, critical, yet receptive mind, extraordinarily free from bias. He was devoted to experimental work, and enjoyed simple methods. Modest and friendly, he was always willing to discuss with and learn from beginners and experts alike; his advice was always valuable, never trite, and sometimes disconcerting. His own description of his recreations as "reading, writing and arithmetic" reflected his quiet humour and was accurate at a deeper level; he was among the few scientists to achieve

a characteristic prose style, writing with such terse clarity as to become arithmetically simple. These qualities made him an admirable chairman. His concluding summary at the end of the Symposium on Adrenergic Mechanisms in 1961 exemplifies his style; he put to the meeting what he thought he had learnt and then characteristically asked for corrections. The final version is still the best, as well as the most concise, review of adrenergic physiology and pharmacology available.

He was a founder member of the British Pharmacological Society and served repeatedly on its committees and as its representative. In 1945 he took the chair at the gathering to discuss founding the British Journal of Pharmacology, and became the first chairman of its Editorial Board, serving until 1955. He attended the Society's meetings whenever he could, and by his own contributions in papers and in discussion did much to maintain both the scientific standard and the atmosphere of free but friendly debate. By placing his great intellectual gifts and personal qualities unequivocally at the service of pharmacology at a critical period of its development as a science, Gaddum left the British Pharmacological Society and pharmacologists all over the world permanently in his debt.

W. D. M. P.